



National Biosolids Partnership
Environmental Management System (EMS)
Internal Audit Report
City of Fort Worth Water Department
Village Creek Water Reclamation Facility
Fort Worth, Texas

Audit Performed By:
Steven L. Nutter
Audit Dates: August 29th – September 9th, 2015
Report Date: September 11th, 2015



References

City of Fort Worth EMS for Biosolids
NBP - 3rd Party Auditor Guidance (August 2011)
NBP – Guidance for Interim Audits (August 2004)

1.0 - INTRODUCTION

The Fort Worth Water Department, in conjunction with Renda Environmental Inc., has developed and implemented an environmental management system (EMS) for its Biosolids Program. The EMS helps the Village Creek Water Reclamation Facility to manage all aspects of its Biosolids Program, including solids treatment, dewatering, transporting and beneficial land application. The EMS was originally certified on July 20, 2005 by the National Biosolids Partnership (NBP). Fort Worth was one of the original programs to volunteer to become a NBP Demonstration Agency, becoming the seventh agency in the country and the first in Texas to receive a NBP EMS certification.

A properly implemented EMS assists the Biosolids Program with the following:

- Identifying the overall goals and objectives of the Biosolids Program.
- Creating a series of management practices to meet the goals and objectives.
- Managing biosolids and monitoring and measuring the effectiveness of the program.
- Taking corrective and preventative measures if the management practices are not operating correctly.
- Conducting audits of the Biosolids EMS Program.
- Requiring management involvement to make changes to the program as needed.

The City of Fort Worth conducts internal audits of its Biosolids EMS Program. The internal audits are structured to work in tandem with third party interim and verification audits. The City believes that the internal audits provide opportunities to continually improve the EMS program and prepare staff for third party audits.

In accordance with Element 16 of the Biosolids EMS Program, an internal audit was conducted on August 29th, 2015. The audit team consisted of the following individuals from the Fort Worth Water Department:

- Steven L. Nutter, REM, CEA (Lead Auditor) - Over 15 years of experience conducting environmental audits & inspections with the City of Fort Worth Water Department and the Texas Commission on Environmental Quality (TCEQ).

2.0 - SCOPE AND OBJECTIVES

EMS Element 16 details procedures for conducting internal audits of the Fort Worth Biosolids Program. There are two types of internal audits:

- Interim Audits – During any given reporting year if a third party auditor is not utilized then the City shall conduct interim audits that cover the biosolids EMS management activities performed by the Contractor and the City. Interim audits are similar in scope and procedure to the National Biosolids Partnership (NBP) interim third party audits.
- Pre-Interim Audits - The City conducts pre-interim audits prior to third party audits. Pre-interim audits are more general in nature and focus on items such as environmental performance and goals & objectives.

This year the internal audit scope was designed to follow the pre-interim audit procedures. This included the review of the following items:

- Overall Environmental Performance
- Compliance Status
- EMS Goals & Objectives
- EMS Management Review Meetings
- Annual EMS Performance Report

In addition to the required items the pre-interim audit also evaluated the corrective action notices for 2014-2015.

The objective of the audit was to determine whether or not the EMS is effective in helping the Water Department to manage its biosolids processes, as well as assisting the Biosolids Program in preparing for the third party interim audit.

3.0 - METHODOLOGY

The audit followed the guidelines provided in EMS Element 16 of the Fort Worth Biosolids Program. Each of the required components was reviewed to determine overall program effectiveness. Specifically, the program was evaluated using the following methods:

- Document Review
- Interviews with City and Contractor Personnel

4.0 - OVERALL EVALUTION

The last twelve months have seen significant changes in the Fort Worth Biosolids Program. The State of Texas recently promulgated new environmental regulations that have had a direct impact on several components of the biosolids value chain. As a result, the Fort Worth Water Department has evaluated and implemented new strategies to improve the environmental performance of the solids handling process. This includes the adoption of new technologies and management practices that improve biosolids dewaterability and odor characteristics.

Based on the pre-interim audit results, the EMS continues to be an effective tool for assisting with biosolids program implementation and improvement. The EMS is a critical component that allows the City and the Contractor to respond to program challenges in a systematic and timely manner. However, there are opportunities for improvement that both the City and Contractor have acknowledged and are committed to addressing. This is further testimony to the continual improvement philosophy of Fort Worth's Biosolids EMS Program.

5.0 - AUDIT PARTICIPANTS

The following City employees and Contractor personnel were contacted during the course of the audit:

Ben Davis, Biosolids Program Manager (Contractor) – (817) 571-9391
Magan Lersch, Biosolids EMS Coordinator (817) 392-4979
Glory Walker, Sr. Environmental Specialist (817) 392-4936

6.0 - PRE-INTERIM AUDIT FINDINGS

The following summary addresses positive observations, nonconformances and recommendations noted by the auditor during the pre-interim audit.

6.1 - Positive Observations:

The Biosolids EMS Program continues to mature with significant improvement in several areas associated with the biosolids value chain. City and Contractor personnel are well trained and understand their roles and responsibilities. The Biosolids Program continues to utilize corrective action notices and goals and objectives to address program deficiencies and promote overall program improvement.

6.2 - Minor Program Nonconformances

Element 12 – EMS Documentation and Document Control

Item 12.1: Establish and maintain documentation, documents, and records for the EMS program including the 17 EMS elements.

Finding: Appendix 9A of EMS Element 9 states that when a complaint is filed by an interested third party then the City and the Biosolids Manager (Contractor) shall document it by filling out a complaint form. However, several complaint forms were not filled out for complaints received during the 2014-2015 reporting period.

Item 12.2(c): Establish and maintain document control procedures and practices to ensure that the EMS program documentation and documents are kept up to date through periodic reviews and revisions (if applicable).

Finding: Element 4 states that the annual review of legal and other requirements shall be performed by August 1st of each year. However, the legal and other requirements table attached to Element 4 was not updated by the August 1st, 2015 deadline.

6.3 - Recommendations

1. It is recommended that the City consider revising and/or streamlining its procedures associated with documenting complaints received from “interested parties”. Currently interested parties are defined as customers, future customers, farmers/ranchers, regulators, government officials, local residents, the media, environmental groups, and the general public. A “Biosolids Complaint Form” must be filled out for each complaint submitted by any of these groups regardless of whether it was received by phone or by email. Then most of the same information must be transferred over to the Complaint Log Spreadsheet. Is there a more efficient way to log this information? The City should also consider specific procedures for complaints received in writing (such as email).

7.0 – PRE-INTERIM AUDIT REQUIRED ELEMENTS

7.1 - Environmental Performance

Required TPDES Monitoring. During the 2014-2015 reporting period the Fort Worth Biosolids Program was 100% compliant with TPDES monitoring requirements:

- Fecal
- Salmonella
- Helminth Ova
- Enteric Virus

- Metals
- Toxicity Characteristic Leaching Procedure (TCLP)
- Polychlorinated Biphenyl (PCB)
- Odor Log Monitoring Requirements
- Vector Attraction Reduction Alternative #1 Requirements

Odors. Odors remained an issue during the first half of the 2014-2015 reporting year. During this timeframe 38 odor complaints were forwarded to the Water Department. In response to ongoing odor issues the following actions were taken:

- Several goals & objectives are in place to determine the root cause of the odor problems as well as to develop potential solutions.
- Several new management practices were implemented in July of 2015 resulting in reduced the odor emissions at the biosolids land application sites.
- Routine inspections and odor monitoring were performed at the Biosolids Dewatering Facility and the land application sites to verify complaint information and to make informed decisions on how to address the odor issues.

Tracking & Dust Complaints. During the 2014-2015 reporting period there were 6 tracking & dust complaints forwarded to the City. The following actions were taken in response to problems associated with tracking of biosolids onto roadways:

- Inspections were performed at land application sites to verify complaint information and to make informed decisions on how to deal with tracking issues.
- For those instances in which a tracking complaint was verified the Contractor promptly dispatched a crew to clean the roadways.

7.2 – Compliance Status

There are currently no open enforcement orders associated with the biosolids program.

7.3 – EMS Goals & Objectives

EMS Goals & Objectives have been developed and updated as required by Element 5.

7.4 – EMS Management Review Meeting

The Annual EMS Management Review Meeting was held on October 6th, 2014. The meeting minutes were documented and followed the criteria outlined in Element 17.

1. Accomplishments since last review;
2. Changes to policy;
3. Goals & Objectives - Advancements towards existing goals and objectives and identifying “New” goals and objectives.

4. Internal EMS audit results;
5. External third-party Interim & verification EMS audits;
6. Legal and self-imposed regulation compliance;
7. Reports on emergencies, spills or other incidents
8. Corrective Action Notices;
9. Update to Critical Control Points;
10. Changing circumstances;
11. External communication and public participation;
12. Other biosolids performance measures;
13. New scientific/technical data on biosolids;
14. Review status of operational control procedures (SOPs)

7.5 – Annual EMS Performance Report

The Annual EMS Performance Report for the 2013-2014 reporting period was completed as required by EMS Element 15. The City is currently working to complete the EMS Performance Report for 2014-2015.

7.6 – Corrective Action Notices

There were 11 corrective action notices (CANs) created during the 2014-2015 reporting period. Five of the CANs are still open pending completion of corrective actions. The most significant of these is CAN-2014-05 which is associated with necessary changes to public outreach activities. It is important to note that the Biosolids Program has recently added new personnel and resources that will assist in making the needed improvements in the area of public relations.